

**APPENDIX 7 TO SCHEDULE 3.3
TO THE
COMPREHENSIVE INFRASTRUCTURE AGREEMENT
MAINFRAME & SERVER SERVICES SOW
DETAILED PACKAGE DRAFT**

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This is Appendix 7 (Mainframe & Server Services SOW) to Schedule 3.3 (Statements of Work) to the Comprehensive Infrastructure Agreement between the Commonwealth and Vendor (the "Agreement"). Unless otherwise expressly defined herein, the capitalized terms used herein shall have the meaning assigned to them in Appendix 10 (SOW Definitions) to Schedule 3.3 or in the Agreement.

1.0 Mainframe & Server Services Overview and Objectives

1.1 Mainframe & Server Services Overview

This Appendix 7 (Mainframe & Server Services SOW) is the Statement of Work (or "SOW") that sets forth the roles and responsibilities of the Parties for the mainframe & server Services ("Mainframe & Server Services") provided under the Agreement as part of the Services. Mainframe & Server Services are the services and activities, as further detailed in this SOW, required to provide and support the Commonwealth's centralized production, quality assurance, and development computing environments. The Data Center environment includes central CPU, Unix-based Windows-based systems, disk and tape storage hardware and System Software that supports centralized databases, business applications, file/print servers, data warehouse and Web applications. Vendor may deploy additional application and proprietary systems to support the core business Systems and to provide Commonwealth infrastructure technical support.

In addition to the Services described in this SOW, Vendor is responsible for providing the Services described in Appendix 1 (Cross-Functional Services SOW) to Schedule 3.3.

1.2 Service Objectives

The following are the key high-level Service objectives Vendor shall ensure the Commonwealth achieves through Mainframe & Server Services:

- Meet Commonwealth business needs for highly available, reliable, scalable and secure Services
- Maintain compliance with industry standards and government regulations
- Acquire third party services with availability guarantees backed by service-level agreements (SLAs)
- Acquire Services that can leverage operational scale and best practices to achieve optimum commercial price performance
- Adopt a more flexible and variable cost structure versus owning fixed assets
- Acquire ongoing feedback mechanisms to ensure performance meets expectations

2.0 Service Environment

2.1 Scope of the Infrastructure to be Supported

This paragraph describes the scope of Services described in Section 2. This includes assets, facilities and locations, personnel, policies and procedures, licenses and agreements and work-in-process. Schedules and attachments are associated with each section to allow for quarterly updates and changes. The following sub-sections and related SOW Addenda further

describe and scope the Mainframe & Server Services environment to be supported and/or with which Vendor shall comply. Service Environment Addenda are to be maintained by the Vendor, reviewed with VITA, updated by Vendor and made available to VITA on a quarterly basis.

2.1.1 Hardware and Software

- a. A listing and description of all Data Center hardware to be provided and supported as part of the Mainframe & Server Services is provided in Addendum 1 – Mainframe and Server Hardware.
- b. A listing and description of the Systems Software and utilities to be provided and supported as part of the Mainframe & Server Services is provided in Addendum 2 – Mainframe and Server Systems Software.
- c. A listing and description of the data sets and Business Software, and Application Software where applicable, for which Database Administration Services are to be provided is provided in Addendum 3 – Mainframe and Server Supported Databases.
- d. A listing and description of Middleware and its related Business Software, and Application Software where applicable, for which Middleware Administration Services are to be provided is provided in Addendum 4 – Mainframe and Server Supported Middleware.

2.1.2 Service Locations

- a. A description of the Locations from which Vendor will initially perform Mainframe & Server Services is provided in Addendum 5 – Vendor Data Center Facilities.
- b. A description of the Data Center facilities requirements for replacement primary and backup Data Center facilities is provided in Schedule 4.

2.1.3 Personnel

Vendor will be responsible for providing appropriately skilled staffing for the Mainframe and Server environment to meet the Roles and Responsibilities and Service Levels set forth in this SOW.

2.1.4 Policies, Procedures and Standards

A description of the applicable policies, procedures, standards and regulatory compliance requirements with which Mainframe & Server Services will comply is provided in Schedule 13 (Commonwealth Policies) to the Agreement and in the Procedures Manual.

2.1.5 Agreements and Licenses

A list of Mainframe and Server-related agreements and licenses is provided in Schedule 28.23 (Contracts) and Schedule 28.70 (Licenses).

2.1.6 Current Projects

VITA currently has a number of Mainframe and Server-related Current Projects that are planned or in progress that are included in the scope of this Appendix and are the responsibility of Vendor to complete within the time frames specified. A list of these projects is provided in Schedule 28.29 (Current Projects).

2.2 Baseline Information

The SOW Baseline data and the seven (7) year volume projections for all applicable Towers that the Vendor shall use for its pricing is located in Schedule 10.1B – Pricing Response Format Microsoft Excel workbook within the worksheet titled “7 Year Volume Projections.”

3.0 Mainframe & Server Service Requirements

3.1 Service Descriptions and Roles & Responsibilities

In addition to the Services, activities, and roles and responsibilities described in Appendix 1 (Cross-Functional Services SOW) to Schedule 3.3, Vendor shall be responsible for the following Mainframe & Server Services.

3.1.1 General Responsibilities

The following table identifies General roles and responsibilities associated with this SOW. An “X” is placed in the column under the Party that will be responsible for performing the task. Vendor responsibilities are indicated in the column labeled “Vendor.”

Table 1. General Roles and Responsibilities

| General Roles and Responsibilities | Vendor | VITA |
|--|--------|------|
| 1. Manage event and workload processes across all platforms | X | |
| 2. Provide technical support for all hardware/equipment of the Data Center computing infrastructure | X | |
| 3. Support all System Software computer-processing Services (e.g., OS, Middleware, collaborative computing platforms, Internet, Intranet and Extranet) | X | |
| 4. Support Data Center Network operations (e.g., Systems monitoring, Problem diagnostics, troubleshooting, resolution and escalation, Security Management; and Capacity Planning/analysis) | X | |
| 5. Provide database administration, data management and storage Services | X | |
| 6. Provide data backup and restoration Services in accordance with Commonwealth and VITA established policies | X | |
| 7. Provide Disaster Recovery Services across all platforms per the Commonwealth and VITA Disaster Recovery planning requirements | X | |
| 8. Provide send/receive electronic data transmissions | X | |
| 9. Provide Data Center environmental support (HVAC, UPS, power, cable plant, etc.) | X | |

| General Roles and Responsibilities | Vendor | VITA |
|---|--------|------|
| 10. Coordinate all changes to the Data Center infrastructure that may affect the Service Levels of any other Service area | X | |
| 11. Create and maintain all appropriate project plans, project time and cost estimates, technical specifications, management documentation and management reporting in a form/format that is acceptable to VITA | X | |
| 12. Report performance against Service Levels | X | |
| 13. Coordinate Service delivery with Help Desks, as well as other support groups within each of the other Towers in coordination with Eligible Customers, VITA, and all appropriate third-parties, as necessary | X | |
| 14. Provide VIP Support Services as necessary | X | |

3.1.2 Data Center Computing Services

3.1.2.1 Operations and Administration

Operations and Administration Services are the activities associated with the provisioning and day-to-day management of the installed Systems and Software environment.

a. Operations activities include:

- Computer processing for batch and on-line Systems (e.g., mainframe, Windows-based server)
- Data storage (e.g., direct access storage devices (DASD), redundant array of independent disks (RAID), storage area network (SAN), network-attached storage (NAS), tape and optical)
- Centralized output management for print, microfiche, film, etc.
- Remote output management

b. Administration activities include:

- Managing End-User accounts
- Support VITA-chargeback requirements for usage of Services
- Gathering usage statistics and the associated reporting activity to ensure effective use of computing resources that will be used to support chargeback and other reporting requirements.
- Managing transaction definitions (e.g., CICS, IMS)

The following table identifies the Operations and Administration roles and responsibilities that are specific to this SOW. An “X” is placed in the column under the Party that will be responsible for performing the task. Vendor responsibilities are indicated in the column labeled “Vendor.”

Table 2. Operations and Administration Roles and Responsibilities

| Operations and Administration Roles and Responsibilities | Vendor | VITA |
|---|---------------|-------------|
| Monitoring Operations Roles and Responsibilities | Vendor | VITA |
| 1. Develop and document in the Procedures Manual monitoring procedures that meet requirements and adhere to defined policies | X | |
| 2. Review monitoring procedures | | X |
| 3. Provide console operations for centralized and remote computer processing unit (CPU) processing | X | |
| 4. Provide console monitoring, troubleshooting, repair and escalation of Problems in the Data Center computing environment | X | |
| 5. Provide preventative measures for proactive monitoring and self-healing capabilities to limit Outages that impact Service delivery | X | |
| 6. Monitor Systems as scheduled and respond accordingly to System messages | X | |
| 7. Identify and report Application Software Problems | X | |
| 8. Resolve or assist in resolving Application Software Problems in accordance with Service Levels. Escalate as required | X | |
| 9. Conduct applications test-to-production migration activities | X | |
| Job Scheduling and Execution Operations Roles and Responsibilities | Vendor | VITA |
| 1. Define job scheduling requirements, Application Software interdependencies, VITA and Commonwealth contacts, and rerun requirements for all production jobs | | X |
| 2. Provide job scheduling, job execution, reporting and resolution taking into account infrastructure and System interdependencies | X | |
| 3. Implement and manage scheduling tools for managing/automating job execution (e.g., job workflow processes, interdependencies, VITA and Commonwealth contacts, and rerun requirements file exchange functions and print management) | X | |
| 4. Define test and demand batch scheduling requirements | X | |
| 5. Prepare test and demand batch jobs for execution | X | |
| 6. Execute test and demand batch jobs on appropriate Systems | X | |
| 7. Execute production batch jobs on appropriate Systems | X | |
| 8. Monitor progress of scheduled jobs and identify and resolve issues in scheduling process | X | |
| 9. Start-up and shut-down online/interactive Systems according to defined schedules or upon approved request | X | |
| 10. Maintain database of job scheduling, contact, rerun and interdependencies | X | |
| 11. Provide quality control for reprocessing activities, such as batch reruns | X | |
| 12. Validate job results per VITA instructions | X | |
| 13. Notify VITA and maintain a history of job completion results | X | |

| Operations and Administration Roles and Responsibilities | Vendor | VITA |
|---|---------------|-------------|
| EDIF Management Roles and Responsibilities | Vendor | VITA |
| 1. Define electronic data interchange format management requirements and policies, including transport (e.g., EDI, XML, FTP), delivery locations, format and schedule requirements | | X |
| 2. Develop and document in the Procedures Manual procedures for performing EDIF Management that meet VITA requirements and conform to "industry-standards" | X | |
| 3. Review EDIF Management procedures | | X |
| 4. Develop and maintain a repository of all Commonwealth EDIF distribution entities | X | |
| 5. Execute EDIF production and test distribution according to production schedules | X | |
| 6. Monitor all EDIF transactions to ensure proper completion | X | |
| 7. Rerun transactions as required and communicate/advise unresolved EDIF transactions to VITA contact | X | |
| 8. Perform recovery operations for EDIF transactions as required | X | |
| 9. Interface directly with Commonwealth EDIF distribution entities according to defined, entity unique Commonwealth procedures | X | |
| Output Management Roles and Responsibilities | Vendor | VITA |
| 1. Develop and document Output Management requirements and policies | | X |
| 2. Develop and document in the Procedures Manual procedures for performing Output Management that meet requirements and conform to defined policies, including the management of transport, delivery locations and scheduling requirements. | X | |
| 3. Review Output Management procedures | | X |
| 4. Provide print Output Management and distribution | X | |
| 5. Separate and organize printed output materials accordingly | X | |
| 6. Ensure that printed output is delivered to VITA specified delivery locations according to schedule | X | |
| 7. Package and coordinate designated output for pickup by USPS or private delivery services (e.g., Fedex, UPS) | X | |
| 8. Ensure that output devices are functioning, including performing or coordinating routine maintenance | X | |
| 9. Create and distribute Commonwealth data products for Eligible Customers, including volume creation (CDs, cartridges, FTP, etc.) | X | |
| 10. Acquire and manage consumables, such as paper, print ribbons, ink, tapes, etc. Coordinate acquisition of additional materials as needed | X | |
| Storage and Data Management Roles and Responsibilities | Vendor | VITA |
| 1. Develop and document Storage and Data Management requirements and policies | | X |

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| Operations and Administration Roles and Responsibilities | Vendor | VITA |
|---|---------------|-------------|
| 2. Develop and document in the Procedures Manual procedures for performing Storage and Data Management that meet requirements and conform to defined policies | X | |
| 3. Review Storage and Data Management procedures | | X |
| 4. Provide data storage Services (e.g., RAID array, SAN, NAS, tape, optical) | X | |
| 5. Monitor and control storage performance according to Storage and Data Management policies | X | |
| 6. Maintain and improve storage resource efficiency and space requirements | X | |
| 7. Maintain data set placement and manage data catalogs | X | |
| 8. Perform data backups and restores per established procedures and Service Levels | X | |
| 9. Manage file transfers and other data movement activities | X | |
| 10. Provide input processing, for activities such as loading third-party media (e.g., tape) and receipt and/or transmission of batch files | X | |
| 11. Support send and receive electronic data transmissions (e.g., EDI, FTP) | X | |
| 12. Acquire and manage consumables, such as tape, disks, etc. in support of the VITA and the Commonwealth's backup requirements for the Data Center | X | |
| Media Operations Roles and Responsibilities | Vendor | VITA |
| 1. Develop and document in the Procedures Manual media processing procedures that meet requirements and adhere to defined policies | X | |
| 2. Review media processing procedures | | X |
| 3. Maintain a media library and media management system | X | |
| 4. Manage the media inventory to ensure that adequate media resources are available. Coordinate acquisition of additional media as needed | X | |
| 5. Manage input media availability to meet processing Service Levels | X | |
| 6. Load and manage third-party media | X | |
| 7. Provide secure offsite storage for designated media and transport media to offsite location as required | X | |
| 8. Perform periodic audits to ensure proper cataloging of media | X | |
| Enterprise System Administration Roles and Responsibilities | Vendor | VITA |
| 1. Develop and document enterprise computing Systems requirements and policies | | X |
| 2. Develop and document in the Procedures Manual procedures for performing Enterprise System Administration that meet requirements and adhere to defined policies | X | |
| 3. Review and approve Enterprise System Administration procedures | | X |
| 4. Set up and manage End-User accounts, perform access control, manage files and disk space and manage transaction definitions | X | |

| Operations and Administration Roles and Responsibilities | Vendor | VITA |
|---|--------|------|
| 5. Perform System and component configuration changes necessary to support enterprise computing Services in conformance with Change Management requirements | X | |

3.1.2.2 Remote Access

Remote Access Services are the activities associated with the installation, management, operations, administration and support of the hardware and Software for those Systems that support Remote Access and connectivity to computing facilities and Services (e.g., Citrix Metaframe via dial-up and Internet, Web-based mail, VPN, Extranet access). The following table identifies the Remote Access roles and responsibilities that Vendor and VITA will perform.

Table 3. Remote Access Roles and Responsibilities

| Remote Access Roles and Responsibilities | Vendor | VITA |
|---|--------|------|
| 1. Define Remote Access policies and procedures | | X |
| 2. Participate in defining and comply with Remote Access policies and procedures | X | |
| 3. Coordinate Service delivery with the Vendor Help Desk, as well as other support groups within each of the other Service delivery areas in coordination with the Eligible Customer and VITA, as necessary | X | |
| 4. Install, test, provide technical support, administration and security administration for remote access hardware and Software | X | |
| 5. Provide testing support for defined Commonwealth and VITA Application Software that will be made available via Remote Access | X | |
| 6. Provide technical assistance and subject matter expertise as required by VITA infrastructure staff and third-party solution providers for Remote Access products and solutions | X | |
| 7. Perform System or component configuration changes necessary to support Remote Access Services | X | |

3.1.2.3 Database Administration

Database Administration Services are the activities associated with the maintenance and support of existing and future databases. This includes responsibility for managing data, namely data set placement, database performance, and data recovery and integrity at a physical level. The following table identifies the Database Administration roles and responsibilities that Vendor and VITA will perform.

Table 4. Database Administration Roles and Responsibilities

| Database Administration Roles and Responsibilities | Vendor | VITA |
|--|--------|------|
| 1. Define authorization requirements for users, roles, schemas, etc. | | X |
| 2. Provide security administration including Service Requests, managing role and End-User database permissions in accordance with Commonwealth and VITA policies | X | |
| 3. Perform database restores from export dumps or backups | X | |
| 4. Create/refresh development/test/QA databases from production data | X | |

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| Database Administration Roles and Responsibilities | Vendor | VITA |
|---|--------|------|
| 5. Execute authorized Service Requests | X | |
| 6. Define database creation, configuration, upgrade, patches and refresh requirements | | X |
| 7. Execute database creation, configuration, upgrades, patches and refresh | X | |
| 8. Execute all schema changes for all instances | X | |
| 9. Define database data definition requirements for Business Software (IMAC for tables, triggers, attributes, etc.) | | X |
| 10. Execute database data definition requirements for Business Software (IMAC for tables, triggers, attributes, etc.) | X | |
| 11. Maintain documentation for all database instance parameters and System settings | X | |
| 12. Maintain consistent database parameters and System settings across all like instances; consistency must be maintained according to established development to QA to production life cycle | X | |
| 13. Define database definition and manipulation requirements for Business Software and developer schemas | | X |
| 14. Execute database data definitions for Business Software and developer schemas | X | |
| 15. Define and execute database performance and tuning scripts and keep database running at optimal performance for the Commonwealth's workload | X | |
| 16. Implement and administer appropriate database management tools across all database instances. Performance metrics and historical data must be available for trending and reporting over a minimum of 6 months | X | |
| 17. Identify locking conflicts, latch contention, rollback requirements, etc. for all database instances. | X | |
| 18. Resolve locking conflicts, latch contention, rollback requirements, etc. for all database instances in coordination with VITA and Eligible Customers' application developers | X | |
| 19. Provide technical assistance and subject matter expertise to VITA and Commonwealth Business Software developers and third-party vendor support | X | |
| 20. Provide data dictionary expertise, data assistance, Data Warehouse Metadata definition, data mapping functions and creation of data cubes for VITA and Eligible Customers' application developers | | X |
| 21. Monitor database and generate automatic trouble tickets for Problems | X | |
| 22. Open, track, and manage to resolution all database Problems | X | |
| 23. Patch database software as needed according to established development to QA to production life cycle | X | |
| 24. Manage database communication software configuration, installation and maintenance | X | |
| 25. Provide database storage management | X | |

| Database Administration Roles and Responsibilities | Vendor | VITA |
|---|--------|------|
| 26. Define database backup schedules, retention periods, levels (i.e. full, incremental, or differential) | | X |
| 27. Execute the Commonwealth and VITA's database backup and recovery policies | X | |

3.1.2.4 Middleware Administration

Middleware Administration Services are the activities associated with the maintenance and support of existing and future Middleware. The following table identifies the Middleware Administration roles and responsibilities that Vendor and VITA will perform.

Table 5. Middleware Administration Roles and Responsibilities

| Middleware Administration Roles and Responsibilities | Vendor | VITA |
|---|--------|------|
| 1. Define Middleware requirements | | X |
| 2. Manage requirements for users, roles, objects, etc. | X | |
| 3. Implement Middleware configurations | X | |
| 4. Create, alter and delete Business Software object changes | X | |
| 5. Establish and maintain configuration and system parameters in a consistent manner across like server environments | X | |
| 6. Execute processes for the proper maintenance and functioning of Middleware systems (e.g., load balancing, tuning, configuration management) | X | |
| 7. Execute authorized change requests | X | |
| 8. Execute Middleware creation, upgrade and refresh | X | |
| 9. Execute all Middleware system level changes | X | |
| 10. Execute all object changes for all instances | X | |
| 11. Maintain consistent Middleware parameters and system settings across all like instances according to established development to QA to production life cycle | X | |
| 12. Implement and administer appropriate Middleware management tools across all Middleware instances | X | |
| 13. Patch Middleware software as needed according to established development to QA to production life cycle. Correlate internal change request to vendor tracking codes | X | |
| 14. Provide Middleware communication software configuration, installation, and maintenance | X | |

3.2 Exclusions

The following items are specifically excluded from this SOW:

NONE

3.3 Service Specific Milestones

Milestones specific to the deployment of Data Center Services are listed in the following:

| Milestone Description | Milestone Date |
|---|----------------|
| TBD – Vendor to provide this as part of its Transition Plan | |

4.0 Service Management

4.1 Objectives

A key objective of the Agreement is to attain Service Levels with Performance Credits where business is impacted through failure to meet significant mission critical Systems or Services, Critical Milestones or objectives, or when Service performance requirements are not met. Service Levels are detailed in the following sections and those associated with Performance Credits are identified in Schedule 3.12 (Service Level Methodology) of the Agreement..

Vendor shall provide written reports to VITA regarding Vendor's compliance with the Service Levels specified in this SOW.

4.2 Definitions

Appendix 10 (SOW Definitions) to Schedule 3.3 (Statements of Work) of the Agreement provides a list of terms that apply to this SOW and the following Service Levels.

4.3 Service Level Requirements

The following minimum Service Levels are required commencing on the Service Commencement Date. Vendor must consistently meet or exceed the following Service Levels. The Service Level methodology and the identification of Service Levels associated with Performance Credits are detailed in Schedule 3.12 (Service Level Methodology) of the Agreement. **All times referenced are in Eastern Time.**

NOTE: Vendor must provide recommended Minimum Performance % for each Service Level type identified in the Tables below.

Table 6. General System Availability Service Levels

| | |
|--|---|
| DEFINITION | General System Availability is defined as the server CPU, system memory, disks and peripherals up to the connection to the Network. Availability is for the single unit and is not the availability of the aggregated servers and excludes scheduled maintenance. |
| PRE-SCHEDULED DOWNTIME REQUIREMENTS | <p>All pre-scheduled system downtime, unless otherwise agreed upon in advance by VITA, will occur:</p> <p>For the systems with 24x7x365 requirements—all pre-scheduled maintenance shall be performed based on VITA's Change Management policy</p> <p>For systems having non-24x7x365 requirements—pre-scheduled maintenance shall be performed outside of the normal system availability timeframe</p> |

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| General System Availability Service Level Requirements | | | |
|--|-------------------------|--|-----------------------|
| System Platform | Service Measure | Performance Target | Minimum Performance % |
| Mainframe OS and Subsystems (Class 1) | Availability per system | Sun-Sat, 0000-2400 | 99.90% |
| Class 1 – Windows | Per Unit Availability | Sun-Sat, 0000-2400 Mon-Fri, 0700-1900 | |
| Class 2 – Windows | Per Unit Availability | Sun-Sat, 0000-2400 Mon-Fri, 0700-1900 | |
| Class 3 – Windows | Per Unit Availability | Sun-Sat, 0000-2400 Mon-Fri, 0700-1900 | |
| Class 1 – RISC/Unix | Per Unit Availability | Sun-Sat, 0000-2400 Mon-Fri, 0700-1900 | |
| Class 2 – RISC/Unix | Per Unit Availability | Sun-Sat, 0000-2400 Mon-Fri, 0700-1900 | |
| Class 3 – RISC/Unix | Per Unit Availability | Sun-Sat, 0000-2400 Mon-Fri, 0700-1900 | |
| QA/Test Systems and Servers | Availability per server | Mon- Sat 0700-1900 | 98% |
| Development Servers | Availability per server | Mon-Sat, 0700-1900 | 95% |
| | Formula | Availability(%) = 100% - Unavailability (%) Where Unavailability is defined as: $(\sum \text{Outage Duration} \times 100\%) \div (\text{Schedule Time} - \text{Planned Outage})$ | |
| | Measurement Interval | Measure Daily, Report Monthly | |
| | Measurement Tool | TBD | |

Table 7. Application Platform Respond Time Service Levels

| DEFINITION | Online Respond Time for online applications, e.g., DB2, IMS, DMS, CICS, MAPPER, Oracle. | | |
|---|---|--|-----------------------|
| Application Platform Online Respond Time Service Level Requirements | | | |
| Application Platform | Service Measure | Performance Target | Minimum Performance % |
| Mainframe | Online System Respond Time | 80% of transactions complete ≤ 1.5 sec 95% of transactions complete ≤ 2.5 sec 99.9% of transactions complete ≤ 3.5 sec | |
| Production Unix | Online System Respond Time | 90% of transactions complete ≤0.5 sec 95% of transactions complete ≤1.0 sec 100% of transactions complete ≤ 3.0 sec | |
| Unix Test and QA | Online System Respond Time | 90% of transactions complete ≤ 1.0 sec 95% of transactions complete ≤1.5 sec 100% of transactions complete ≤ 2.0 sec | |
| Production Intel | Online System Respond Time | 90% of transactions complete ≤ 1.0 sec 95% of transactions complete ≤1.5 sec 100% of transactions complete ≤ 3.0 sec | |
| Intel Test and QA | Online System Respond Time | 90% of transactions complete ≤ 1.0 sec 95% of transactions complete ≤1.5 sec 100% of transactions complete ≤ 3.0 sec | |
| Intranet/Extranet Web Systems | End-to-End Respond Time | 80% of transactions complete ≤1.5 sec 95% of transactions complete ≤2.5 sec 99.9% of transactions complete ≤3.5 sec | |
| Internet Web Service | End-to-End Respond Time | 50% of transactions complete ≤ 5.0 sec 80% of transactions complete ≤ 30 sec 99.9% of transactions complete ≤ 2 min | |
| | Formula | Performance = Transactions completed within Performance Target /Total Transactions | |
| | Measurement Interval | Measure Daily at 30 minute intervals, Report Monthly | |
| | Measurement Tool | TBD | |

Table 8. Batch Processing Service Levels

| | |
|-------------------|--|
| DEFINITION | <p>Scheduled Production Batch: jobs include system setup, execution and completion of normally scheduled production batch jobs</p> <p>Demand and Test Batch: jobs include time for system setup and initiation of job execution for ad-hoc requests, non-standard, and non-prescheduled batch jobs</p> |
|-------------------|--|

| Batch Processing Service Level Requirements | | | |
|---|------------------------|---|------------------------------|
| Batch Processing Type | Service Measure | Performance Target | Minimum Performance % |
| Scheduled Production Batch | Per Scheduled Time | Complete core jobs per VITA's approved schedule | |
| Demand Production Batch | Elapsed Time | 30 minutes to initiation | |
| Demand Test Batch | Elapsed Time | 30 minutes to initiation | |
| Setup or modify job scheduler definition and dependencies | Elapsed Time | Next workday (all daily requests) | |
| One time schedule change for existing scheduled jobs | Elapsed Time | 2 hours (all daily requests) | |
| | Formula | Total number of jobs completed within Performance Target /Total number of jobs executed during Measurement Interval | |
| | Measurement Interval | Measure Daily, Report Monthly | |
| | Measurement Tool | TBD | |

Table 9. Output Delivery Service Levels

| | |
|-------------------|---|
| DEFINITION | <p>VITA and Commonwealth-defined data output requirements for a variety of output delivery formats and destinations, as well as processing requirements (includes remote printing and print to file). Confirmation of delivery and reporting of output volumes is required. Various Vendor systems/servers direct output to remote printers and other enterprise systems (e.g., fax, pager, e-mail) at various locations, with output delivered to the appropriate system according to Vendor-approved schedules and without errors. For delivery to resources external to Vendor control, queuing of work at Vendor hosting site due to availability of equipment or a confirmed delivery to the target destination will fulfill the delivery requirement.</p> |
|-------------------|---|

| Output Delivery Service Level Requirements | | | |
|---|------------------------|---|------------------------------|
| Output Delivery Type | Service Measure | Performance Target | Minimum Performance % |
| Mainframe Print within Richmond Metro area | Delivered | <p>Daily Print: ≥ 6 hr after job completes</p> <p>Evening Print: By 0700 next morning</p> | |

| Output Delivery Service Level Requirements | | | |
|--|------------------------------|--|--|
| Data Center Print in Primary Data Center for delivery outside of Richmond Metro Service area | Delivered Per Scheduled Time | per VITA-approved schedules | |
| Remote Delivery of print queue to Networked-attached printer | Per Scheduled Time | per Eligible Customer-approved schedules | |
| | Formula | Number of print jobs completed per type within Performance Target /Total number of scheduled jobs per type | |
| | Measurement Interval | Measure Weekly, Report Monthly | |
| | Measurement Tool | TBD | |

Table 10. General Administrative Functions Service Levels

| | |
|-------------------|--|
| DEFINITION | Routine Data Center functions that are required to meet VITA's and the Commonwealth's workload requirements. |
|-------------------|--|

| General Administrative Functions Service Level Requirements | | | |
|---|----------------------|---|-----------------------|
| General Administration Task | Service Measure | Performance Target | Minimum Performance % |
| Notification of Priority 1 outage to Help Desk | Respond Time | ≤ 10 minutes of discovery | |
| Notification of Priority 2 and 3 outage to Help Desk | Respond Time | ≤ 20 minutes of discovery | |
| | Formula | Number of requests completed within Performance Target /Total of all requests occurring during Measurement Interval | |
| | Measurement Interval | Measure Weekly, Report Monthly | |
| | Measurement Tool | TBD | |

Table 11. System Server Administration Service Levels

| | | | |
|---|--|---|-----------------------|
| DEFINITION | Actions by Vendor for proactive monitoring and intervention to minimize capacity bottlenecks and activities required to implement system capacity and operational usage change requests. | | |
| System Server Administration Service Level Requirements | | | |
| System Administration Task | Service Measure | Performance Target | Minimum Performance % |
| Allocate additional server CPU resources based on pre-defined parameters/observed growth patterns | Elapsed Time | Sustained avg. daily CPU utilization approaches 70% of installed processor capacity within 1 day | |
| On-Demand CPU Processing capability change request | Elapsed Time | Increases/decreases of ± 20% of baseline CPU processing capability and notification within 2 days from the event. | |
| Allocate additional server storage resources based on pre-defined parameters/observed growth patterns | Elapsed Time | Total monthly storage capacity utilization measured in GBs used approaches 80% of installed capacity within 1 day | |
| On-Demand Disk storage capacity change requests | Elapsed Time | Increases/decreases of ± 10% of installed storage capacity within 7 Business Days | |
| Storage administration requests (Work Packs, Pools) | Elapsed Time | Within one Business Day subject to agreed upon Change Management Procedures | |
| Capacity/Performance Trend Analysis and Reporting across all platforms | Elapsed Time | Monthly analysis reports ≥ 5 Business Days of month end Interim reports on rapidly developing events and trends identification ≥ 1 Business Day of discovery | |
| | Formula | Number of requests completed within Performance Target /Total of all requests occurring during Measurement Interval | |
| | Measurement Interval | Measure Weekly, Report Monthly | |
| | Measurement Tool | TBD | |

Table 12. Server Software Refresh Service Levels

| | | | |
|---|--|--|-----------------------|
| DEFINITION | Maintaining computing infrastructure Software currency by replacing, updating, upgrading, or otherwise deploying newer versions Software including, patches, upgrades, and new releases. | | |
| Server Software Refresh Service Level Requirements | | | |
| System Software & Application Software Refresh | Service Measure | Performance Target | Minimum Performance % |
| Notification of vendor Software upgrades and new releases | Respond Time | Within 30 days after software vendor announcement | |
| Implementation of service packs and updates to “dot” releases | Respond Time | Within 60 days after approved by VITA. | |
| Implementation of version or major release updates | Respond Time | Within 120 days after approved by VITA | |
| | Formula | Number of requests completed on time/Total of all requests occurring during Measurement period | |
| | Measure Interval | Measure Weekly, Report Monthly | |
| | Measurement Tool | TBD | |

Table 13. System Hardware Updates/Refresh Requirements Service Levels

| | | | |
|---|--|--|-----------------------|
| DEFINITION | Maintaining computing infrastructure technology and performance currency by replacing, updating, upgrading, or otherwise deploying newer technology. | | |
| System Hardware Updates/Refresh Requirements Service Level Requirements | | | |
| Updates/Refresh | Service Measure | Performance Target | Minimum Performance % |
| Mainframe and Server Hardware Refresh | Respond Time | Best practice as outlined in Schedule 3.11 – Technology Refresh Plan | |
| | Formula | Total number of events completed within Performance Target/Total number of events scheduled, due or required | |
| | Measurement Interval | Measure Weekly, Report Monthly | |
| | Measurement Tool | TBD | |
| | | | |

Table 14. Database Administration and Refresh Service Levels

| | |
|-------------------|---|
| DEFINITION | Performance of all Database Administration and Refresh tasks including, but not limited to software installation, patching, performance monitoring and tuning, instances creation and refresh, and recovery operations. For Service Level measurement, production requests MUST be executed within the highest Service Level. |
|-------------------|---|

| Database Administration Service Level Requirements | | | |
|--|------------------------|--|------------------------------|
| Administration Type | Service Measure | Performance Target | Minimum Performance % |
| Allocation of additional storage space based on VITA defined and/or growth patterns | Elapsed Time | Best practice as outlined in Procedures Manual | |
| Instance Creation & Refresh | Elapsed Time | Create = 2 business days Refresh = 1 business day | |
| Create End-User ID, Grants, Revokes, Create tablespace, other data definition requests | Elapsed Time | 2 hours (1-5 requests daily) 4 hours (6-10 requests daily) 2 Business days > 10 daily Based on a per database request | |
| Schema changes and stored procedures | Elapsed Time | 1 business day Based on a per database request | |
| Recovery | Elapsed Time | See Operational Recovery Requirements | |
| Database Refresh Type | Service Measure | Performance Target | Minimum Performance % |
| Individual Patches & requisite patches per database | Elapsed Time | Same business day as signoff by VITA, completed within availability SLRs | |
| Service packs and updates to "dot" releases | Elapsed Time | Within 5 business days of signoff by VITA. Required downtime is outside of the normal availability SLRs | |
| Version or major release updates | Elapsed Time | Within 5 Business Days of signoff by VITA. Required downtime is outside of the normal availability SLRs | |
| | Formula | Total number of events completed within Performance Target/Total number of events scheduled, due or required | |
| | Measurement Interval | Measure Weekly, Report Monthly | |
| | Measurement Tool | TBD | |

4.4 Reports

Vendor shall provide written reports to VITA regarding Vendor's compliance with the Service Levels in Section 4.3. In addition, the following reports are required:

Table 15. Data Center Reports

| Report Description | Timing |
|--|--------|
| TBD – Example reports to be provided by Vendor as part of its response | |

5.0 Referenced SOW Addenda

| SOW Addenda | Description |
|-------------|---|
| Addendum 1 | Mainframe and Server Hardware |
| Addendum 2 | Mainframe and Server Systems Software |
| Addendum 3 | Mainframe and Server Supported Databases |
| Addendum 4 | Mainframe and Server Supported Middleware |
| Addendum 5 | Vendor Data Center Facilities |